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“ There is nothing covered, that shall not be revealed ;
and hid, that shall not be known. ”

St. Matthew.

INDEBTEDNESS

In the
Pastoral & Agricultural
Zones of
THE BHAKKAR THAL.



By
T. D. BEDI, Esq., I.C.S.
With a Foreword
By
The Hon'ble Sir JOGENDAR SINGH,
Minister for Agriculture, Punjab.

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‘Theirs is the Kingdom of Heaven.’

FOREWORD

On a fleeting visit to Palwal I met Mr. T. D. Bedi, I. C. S., who showed me the manuscript of his book, the result of his investigations in the economic conditions of the villages in the district of Mianwali. He has collected facts and figures which reveal that inhabitants of this area are heavily in debt and their income is altogether inadequate to meet their liabilities.

A more systematic and closer study is required on the lines suggested by Bowley Committee to ascertain the extent of economic distress in the villages, to discover its cause and cure. It is idle to believe all is well in the villages in the face of available facts, on the ground that people have shown no signs, that the burden is more than they can carry. It may be that the disease has become chronic and the patient has lost the power to make his sufferings known.

There can be no question that dead hand of debt is weighing heavily on our population and no movement towards recovery is possible unless people are relieved of its heavy load and frozen capital begins to flow again. The need of the moment both for the creditor and the debtor is to come together and reach a settlement.

The catastrophic fall in the prices of raw produce has reduced the income of the producer almost to the vanishing point, and it seems inevitable that either the price of the raw material should be raised, or money obligations brought in direct relation with new commodity prices. The only way to improve life and labour in the Punjab is, in the first place, to increase the purchasing power of the people, thus creating a demand for commodities which in its turn will stimulate both production and consumption. The wheel of wealth will then move again distributing its bounties.

FOREWORD

I can commend this little book to all those who are anxious to know and to apply their minds to make the land they live in a healthier and happier place.

JOGENDAR SINGH.

Lahore,
The 30th April, 1934.

P R E F A C E

This inquiry was made by me in 1932 when I was Assistant Commissioner at Bhakkar on the suggestion of Mr. M. L. Darling, I. C. S., who was my Commissioner at that time. The primary object of the inquiry was to determine the extent of indebtedness in the Bhakkar Thal and to find out which of its two parts, Pastoral or Agricultural, was more indebted and why?

It is but apparent that such a comparative study could not be made without fully ascertaining the natural economy of the Thal and studying its social and physical features. In connection with another work I had to tour widely and read the available literature on these topics and some of the information gained thereby has been given in Part I, *viz.*, the Introduction. My only apology for writing the Introduction is that the knowledge of some of the subjects dealt therein is absolutely essential for the comprehension of the main problem.

It took us four months to collect the data. But as soon as it was done I was transferred to Multan. There some other topics urged themselves upon my notice and the desire for writing this report had to be kept in abeyance. As soon as it was completed it was forwarded to Mr. Darling, but the very unfortunate death of Mr. Darling occurred and he left India on long leave; and the report came back to me after remaining in his office for a long time. In the meantime it struck me that the figures arrived at as a result of this inquiry may also be compared with those of any other tract and I, therefore, deliberately postponed this publication somewhat. I have made inquiry in a still more detailed manner in some of the villages of the Palwal Sub-Division and although its publication will take some time, I feel fortified in the conviction that the results of the present inquiry are not of an extraordinary character.

As Assistant Commissioner at Sargodah I had seen the Khushab Thal. From Multan I gained information about 'Leiah and similar sandy tracts in Bahawalpore State, which I was destined to visit, and I have come to the conclusion that the results obtained by this investigation apply with little or no modification to a considerable part of the Punjab. Accordingly, I decided that this work should be published.

The method adopted in this inquiry has been stated in Part II of the Report and it may be said with confidence that the *data* obtained are the result of as much care as can be possible on the part of a trained and influential staff. It might appear nevertheless that some villages in the same zone are much more heavily indebted than the others. There is nothing exceptional about it. That depends on the character of the people inhabiting a particular village. Even in the Palwal Tehsil a village of Meos would be found to be at least twice heavily indebted than that of, say, Goojar or Rajput Jats.

The method adopted for estimating incomes and debts and the significance attached to some terms has been explained in the relevant places. Statement No. I contains a summary of the figures and Nos. II and III indicate how certain incomes were calculated. It is in the nature of things that the report should have voluminous appendices containing the *data* and they might also be published as soon as practicable.

Part I is primarily meant for those who are not very fully acquainted with the Bhakkar Sub-Division. The concise summary of my conclusions with regard to the main problem, is given in a chapter in Part II called the "Conclusions" and its perusal would suffice if only a bare knowledge of my thesis is required.

The help given to me by the Revenue Officers of the Bhakkar Tehsil of that time, was commendable. I am thankful to Mehta Fateh Chand who was a Naib Tehsildar and Lala

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Kanhaiya Lal who was a Girdawar at that time in a special degree. I owe gratitude to my wife as well who undertook the difficult task of correcting the proofs and going through the entire work for checking the accuracy of the figures.

But in the end I must emphasize with all the strength at my command that the opinions expressed by me are purely my own and are held in a personal capacity. The object of this investigation, as I have already stated, was to ascertain facts. It was undertaken because I believe that unless facts are known the opportunities, that new circumstances might bring in their train, may not be utilized for full self-improvement. I, therefore, wish that dispassionate consideration be given to the results indicated and problems raised by this and kindred studies.

Palwal, 27-3-34.

T. D. BEDI.

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INTRODUCTION.

1. GENERAL DESCRIPTION.

The great Thal of the Bhakkar Sub-Division lies between the river Indus high bank and the boundaries of the Bhakkar Tehsil towards Jhang, Muzaffargarh and Shahpur Districts. It forms the eastern portion of the Sub-Division and covers an area of 1,732,703 acres. "A scanty rainfall, a treeless sandy soil and a precarious and scattered pasture mark this out as one of the most desolate tracts in the Punjab. Much of it is real desert, barren and lifeless, devoid not only of birds and animal life but almost of vegetation. Lines of high sand hills running for the most part north-east and south-east alternate with narrow bottoms of soil called 'lak' which in places is stiff and hard, but is more often covered with sand." A stripe of land called the Fatti running from Tiba Meharban Shah towards the north is especially fertile and yields barani crops comparable with any grown on canal lands. The portion immediately lying along the Railway line about eleven miles in width is called the Daggar, on account of the existence of collections of wells in it known as "Daggars" in local dialect. The land of the Daggar is stiff and more cultivable than that of the adjacent Jandi Thal of Leiah. The Daggar is the most cultivated from Kalnoor-Kot to Shahlam. The Thal proper resembles more or less a vast sea of sand, sand hills representing the rising waves and in several parts water cannot be had for miles. The northern portion is more cultivated and less pastoral than the southern and depends for irrigation on the rain. The southern portion is more pastoral and agricultural and it depends for irrigation on water drawn from very deep and expensive wells. In the Daggar Barani cultivation is a rare phenomenon and agriculture by means of expensive wells is supplemented by Maldari. Jand is prominently noticeable from amongst the trees and Phog and Lana from amongst the grasses. But as will be seen from the map Lana and Phog grow in distinct zones of their own. In the Daggar people live in small habitations on the wells called Deras; in the north there are found some big villages like Dulewala and Jandawala, but in the south which is more pastoral, no villages worth the name can be found except the old towns of Mankera and Haidrabad. In this part people live in Deras and in Jhugis—small tents made of twigs and bamboo sticks. Excepting the motorable roads from Bhakkar to Haidrabad and Dulewala there are no other roads in the whole Thal and the means of conveyance are Maharas, (swift camels), horses, donkeys and the feet of man.

2. THE CLIMATE.

The climate of the Thal is dry and one of extremes. In summer the temperature surely rises as high as hundred and twenty-five (125), and extremely hot

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'looz' blow under a scorching sun and wither the plants. The sand storms also come with great fury and any idea of the dust they bring along with them and the devastation they work cannot be gained without actual experience. Several times even the trains fail to find their way to Bhakkar on account of the collection of sand brought by the storm on the Railway lines. The popular proverb recognises the character of the climate as follows:—

" Thul Maharu Wasan Balain
Jand Jhadul *tei* garm Havain."

(In the Thal and Mohar live demons, Jand trees, Jhadol and hot winds).

In winter it gets bitter cold in the Daggar, and portions adjacent to it are affected by cold wind known as Goombie which is said to issue from the Goombie pass of the Suleman hills. The people are often seen going about with thick 'thigras' on their ears, to avoid the cold when these winds prevail. Such a climate would be considered to be healthy and exempt from disease. But it is regrettable, that of late the people of the Thal have begun to loose their reputation for robust health and phthisis has found its way in several villages. This is generally attributed to the strenuous nature of labour called forth by the Barani cultivation and the diminution in the use of milk and lassi as a result of decrease in 'maldari.'

3. RAINFALL.

Rainfall in the Punjab is brought in summer by the Monsoon winds. But Mianwali district lies in the extreme west and before the winds reach there they become dried. More than the Summer Rainfall is the Winter Rainfall important for the Thal. The chief crops grown in it are wheat and gram, and both of them require ample rainfall at the time of sowing in October and November, and for growth in February and March. The Winter rains in the Punjab are brought by the cyclones from the Persian Gulf striking the Hindu Kush mountains but Mianwali receives no regular cyclone and hence the Rainfall even in winter is precarious, uncertain and not well distributed over all months. The figures below show the averages of rainfall.

I.

Between 1885-1900.

	1885- 1886.	1885- 1890.	1890- 1895.	1895- 1896.	1896- 1897.	1897- 1898.	1898- 1899.	1899- 1900.	1859- 1900.
April-Septr. ..	2.2	2.1	9.22	.38	8.89	1.46	4.44	5.44	4.26
Oct.-March ..	2.6	.93	2.98	2.46	2.15	2.40	1.75	1.64	2.8
Total ..	4.8	3.03	12.20	2.84	11.04	3.86	6.19	7.08	7.06

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II.

From 1903-1924 Averages.

Period.	April to September (6 months).	October to December (3 months).	January to March (3 months).	Total.
1903-14 ..	7.93	.32	2.55	10.80
1914-24 ..	7.17	.60	1.16	8.96
1903-24 ..	7.57	.46	1.89	9.92
		2.35		
1919-24 ..	5.42	1.02	1.11	7.55
		2.13		

III.

From 1922-23 to 1932 Winter and total separately.

	1922- 1923.	1923- 1924.	1924- 1925.	1925- 1926.	1926- 1927.	1927- 1928.	1928- 1929.	1929- 1930.	1930- 1931.	1931- 1932.
6 months (October to March.)	3.5	1.67	1.8	2.60	0.11	0.99	0.96	1.39	1.54	1.3
Total ..	13.22	15.84	7.59	10.56	3.42	1.87	16.32	4.39	5.74	..

A detailed notice of these figures I reserve for another place in the chapter dealing with indebtedness. But one fact may be noticed here. The average of Winter Rainfall on which the prosperity of Barani cultivation depends in the Thal is decreasing every year.

From statement No. 1 it would appear that the average for the years 1885-1900 was 2.8 ins. No. 2 shows that in 1903-24 it was reduced to 2.35 ins., and in 1919-24 to 2.13 ins. For the years 1922-32 (*vide* No. III) it is no more than 1.58 ins. Hence it is clear that the average is steadily dwindling.

4. SOILS.

According to chemical composition, the soil can be divided into two kinds: (1) Thadda, one that contains little loam, such as that of the great Thal, and (2) Thatta which contains more loam as that of the Daggar. The soil of the Great Thal is further divisible into two: (a) the Tibba of the sand hill, and (b)

the lak of stiff soil with or without a covering of sand lying between the two Tibbas. The former is light and soft and can retain water and is used for producing water melons. In many cases the soil is merely scraped by the help of ploughs drawn by men, and melon seeds are thrown haphazardly in them and they yield a beautiful crop. The lak is stiffer and of late years has proved good for growing wheat and gram provided it rains a little. No manure is used at all on this land. The soil of the Daggar is very stiff and light. It is almost impermeable to rain water and needs to be irrigated by wells. It is light, and nothing can be grown on it without manure. The wells are deep and manure is brought from the Thal and the expense on both the items deprives agriculture of its profitable character.

5. FLORA.—MAIN PRODUCTS OF THE WASTE.

In his Settlement Report Sir Malcolm Hailey wrote as follows :—

"The products of the waste occupy so important a part in the economy of the Thal that I venture to give them a somewhat detailed notice. There is a clearly defined division of the main flora corresponding to the difference in soils. 'Lana' and 'sain' grow exclusively, and 'chhember' grows best, on light sandy soils; 'jal' and 'phog' grow best on the firmer soils, and the two sets of plants are seldom combined. The plants mentioned above are of the utmost importance in the Thal. 'Lana' is the great food of camels during the summer months, and the young shoots also afford food in spring to sheep and goats. The Thal 'lana' is *haloxylon salicornicum multiflorum*, and is to be distinguished from *haloxylon recidivum*, i.e., 'khar' or 'sajji' land, from which carbonate of soda is made, and also from 'lani' (*phisak lani*), *Suaeda fruticosa*, and the 'gora lana' (*salsola foetida*) of the Deman. The 'manna' is sometimes used in washing, but has no further use. 'Chhember' (*Eleusin flagellifera*) is a prostrate plant with runners and spikelets which rise to about a foot in height. It springs up in the sand with most astonishing speed after rain, but unfortunately dies down equally quickly. It is excellent fodder for all stock, and the prosperity of this tract, just as that of the Shahpur Bar, depends mainly on its growth. It seeds both in Spring and Autumn. 'Sain', probably *Elinurus hirsuts*, is a tall grass, the roots of which usually form a compact clump; it seeds in Autumn, when it often stands waist high. It is excellent fodder for cattle and horses. There is a variety called 'phitsain' both the appearance and name of which would seem to suggest that it is 'sain' run to wood. It is usually spoken of as useless, but it throws out twice a year shoots which are eaten by cattle and sheep. Like 'sain', it is confined to the northern Thal. 'Jal' (*salvadora oloides*), the 'van' of other districts, attains in some cases fair proportions. It is the great summer food of camels, as 'lana' is the winter food. The Thal equivalent of "what's bred in the bone comes out in the flesh," is "uth bolsi te jal da mushk asi," which

is true not only as a proverb, but unfortunately also as a fact. Sheep will not eat 'jal', but the fresh shoots are sometimes cut off for goats. It flowers in the spring, and the fruit ripens in summer. This, which in its successive stages is called first 'phenkri' then 'machar,' and, finally when ripe 'pilh' (plural 'pilhu') is a very useful article of diet, both for man and beast, and where 'jal' is plentiful the poorer classes are wont to desert their huts and live an Arcadian existence among the bushes during two of the summer months. While fresh, it is eaten by the richer classes, but not more than once a day; when dried and pounded into flour it is eaten more freely. As to its aphrodisiac qualities the unromantic explanation given in the "Punjab Plants" is probably the correct one. The wood is poor, but is used in houses, and the weaker parts of wells; it makes a fuel which stinks in the nostrils even of a Jat. The 'kari' or 'karita,' a bare leafless tree (*capparis aphylla*), is browsed by camels, and the wood is used for the 'lath' and 'bair' of wells. It bears a pink wax-like flower in October and April, which is sometimes boiled as a vegetable; the fruit (dehla) is also eaten, but is certainly unwholesome. It is this tree which is usually adopted as a Lingri or Tikri Pir (*i.e.*, Rag sain) by women who feel themselves to be possessed of devils, but are unable to undertake the expensive cure of a visit to a 'ziarat.' The local explanation of this type of demoniac possession is, I may say, as uncomplimentary to the victims of it as that which forms the theme of Johnson's "Bartholomew Fair." 'Phog' (*kalligonum polygonoides*) is a small leafless woody shrub, which gives out shoots in spring, when it is grazed on by sheep and goats. The fruit (phogli) is sometimes eaten, but is unwholesome. It mainly grows in the firmer soils. The 'Jand' (*prosopis spicigera*) is a highly valued asset, so much so that its fertility acquires a Priapean sense in the local Hindu wedding ceremonies. Here and there a few sacred trees escape lopping. Every other tree is regularly lopped in the winter, and soon becomes gnarled and stunted. The fruit ('sangar') is much eaten by the poorer classes. The trees are subject to the attacks of a green beetle ('binda') which sometimes devastates large areas, and drives all the goats to the other side of the district. The 'babbil' (*acacia jacquemontii*) is a species of ground kikar common in the better parts of the Thal, and much browsed on by goats. The last of the products which form an asset of any value is the 'sarkana', here commonly called the 'munjakana' (*saccarum sara*). It is really a kachhi plant, and grows in the Thal only on a small area near Kot Sultan. The upper part of the stem ('tili') is used for baskets; its sheath ('munj') is beaten up to make ropes. The stem ('kana') is used for fences, hutting, and dozen other uses; the flowers ('bullu') are given as medicine to cows. The trees growing on wells are of less importance. Few wells are without that funeral tree, the 'kaggul' or 'farash' (*tamarix orientalis*)—elsewhere one of the easiest trees to grow—it requires in the Thal at least five years' watering before it can be left to itself.

The 'talhi' (shesham) is also frequent on wells; its wood is prized as the best material for well work. Most wells have a 'ber' (*sisyphus jujuba*) or two, and there are also some in the waste. The small 'ber' growing in the Shahpur Bar and prized as yielding 'malla', does not grow here in any quantity. Besides the 'langi', the fruit is also of some value ('kokir' or ber), the latter yielding the best wood, 'Sarin' are occasionally grown for their shade, and 'rohira' (*tecoma undulata*) for their exceptionally hard wood.

6. MINOR PRODUCTS OF THE WASTE.

There are other products either less valuable or less widely distributed, which may be noticed here. The 'bui' (*panderia pilosa*) is universal in the sandier parts of the waste. The little shrub, with its withered twigs and white woolly tufts, seem to embody the very spirit of desolation. About March it throws out a few dingy shoots, and sheep and goats will eat these when hard pressed, but mostly with discouraging results. There is a 'dedar bui' (*aerua bovii*) which is of rather more value as fodder, but it is found only in the northern Thal. 'Ak' (*calotropis gigantea*) is common; goats will eat the young shoots, and ravine deer also browse on it. 'Akri' (*withania coagulans*), a smaller plant of much the same appearance as 'ak', is also found. The small leafless brooms 'kip' (*crotalaria burhia*) and 'barari' (*periploca aphylla*) are very common, and generally accompany 'bui'; their only use is for fuel or hutting. A smaller kind, called 'Kipra', is eaten by goats. Lemon grass ('khavi') is also found, but is of little value as fodder. Camel thorn (Jawah) is found in the Daggar, not the Thal; 'Bakhra' (*tribulus aratus*), a small creeping plant with a spiky pod, is fairly common; it is grazed by sheep and goats and the seeds are eaten by people in time of scarcity. Smaller fodder grasses are 'madhana' (named from its resemblance to a churning stick), a good grazing grass; 'dodak,' a creeping grass; 'uthpera,' or camels foot; 'gorakpan,' probably *convolvulus pluricaulis*; 'van veri,' a long creeping grass; 'si jubhana,' or 'sunrise'; 'nilbuti,' a wild indigo, eaten by camels; 'bhattel,' dandelions, found only in the north Thal; 'phuli' and 'sayahchar,' with a small white flower; 'ludri' and 'budia,' grasses with spiky heads; 'sit' and 'trangar,' resembling 'bhakra'; 'kamali buti,' with a flat thistle-like leaf; 'pochki,' a creeping plant with broad round leaves; 'nanu,' a bitter vetch, and 'hemcha,' a light fragile grass. 'Padbahera,' or fungi of all sorts, are common, and mushrooms (*kumbhi*) grow freely on the sand hills in the autumn rains. The larger kind (*kumbhor*) are indigestible. But those called 'challi kumbhi' are of fair flavour. 'Pippa' is an edible asparagus-like parasite which grows out of the root of 'kari' trees; 'tandla' is a herb-like growth from the root of 'jand' trees; 'kortamma' or 'tamma', the yellow colocynth, is common, and is valued for its cooling properties. 'Bhukal,' a small leek-like plant,

springs up with the wheat on the wells ; both the plant itself and its seed are, as elsewhere in the Punjab, eaten by the people in times of scarcity. 'Damanh' (*fagonia crectica*) and 'harmal' (*pegamum harmala*) are small plants of which the seed is used medicinally. 'Jaudal' (sometimes called 'phitkanak'), 'sinji' (*melilotus parviflora*), 'batu' (*chenopodium album*) are well-known plants, which as elsewhere, spring up wild on the well courses. 'Pitpapra' (*fumaria parviflora*) springs up in the same way, and is used medicinally, as is also a small gourd, 'chibhar,' which grows wild among the autumn crops."

7. ASSESSMENT.

Revenue is drawn in the Thal from several assessable items, *viz.*, land under cultivation, huge waste lands with villages, Government rakhs, camels and cattle. Since times immemorial there existed a belief in the minds of the people that the waste land belonged to the state. The Mohammadan Rulers had several times exercised ownership by making free grants out of the waste to new settlers and they had reserved large portions of it called the 'rakhs' as pastures for their cattle and cavalry. According to Mr. Tucker, the Sikhs did not abandon this right to the waste land ; nor did they assert it freely. But finally in 1878, as a result of Mr. Tucker's inquiries, it was held that the Government could not lay claim to any other waste land except the 'rakhs.' But for this generous step the canvassing for the Sind-Sagar Act after 1900 should have been unnecessary.

The wells under the Sikh regime were assessed to a lump sum. The Jatha on waste land was realized in the form of a cattle fee called the Tirni fixed for the whole village after due consideration of the number of cattle in the village and the waste attached to it. Owners of land 'bachhed' the Tirni amongst themselves in accordance with the number of cattle from year to year. The assessment of Barani land amounted to 6th or 7th of the total produce after deductions for expenses.

The summary settlement of 1850 and 1854 proceeded more or less on the lines of the Sikh system but the demand was increased enormously and it was followed by disastrous consequences. In 1862 Captain Mackenzie in making his settlement departed from the old system of fixing Tirni in lump sum on the whole village with common profit and loss. He took the view that Tirni was a poll tax on the cattle and that definite fees should be charged for each kind of cattle and collections made after enumeration from year to year. In 1878 Mr. Tucker made the first regular settlement and he swung to the extremely opposite view. The common land for each village was fixed by laying out boundaries. Instead of charging Tirni on the basis of number of cattle a fee of Rupee one Annas eight was levied on each 100 acres of waste land and the manner of its distribution on different classes of people was left to the villagers themselves.

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On the well area, a fixed assessment was imposed, the total for the village being distributed by the people themselves over the wells according to their condition at the time. No arrangement was made for relieving the owners of wells which might at any time fall out of use. A fixed assessment was also imposed on the Barani land and in the case of Barani also the revenue was fixed and not liable to redistribution if the land fell out of cultivation. The Tirni did not include the tax on camels, which was leased separately. But unfortunately a series of bad harvests, followed the settlement and the rigidity of its demand and a prolonged drought combined to make its incidence very severe. In 1902, therefore, a system of assessment was proposed which was semi-fluctuating in regard to wells in as much as it provided that in the event of a well falling out of use nothing was to be charged, and in case part of it was not cultivated remission was admissible according to rules. The Barani was assessed to annas four per harvested acre and the sum total of Barani Jama and Tirni was fixed for each village, the villagers having the right to share loss and profit in common and of making good the loss from one by profit from the other. The rakhs continued to be leased to contractors and the wells on the Mancera road were exempted as before from land revenue in recognition of the service they rendered to the travellers. The third regular settlement of 1925 did not interfere with the main scheme of the 2nd and the position at the present moment can be summed up as follows :—

- “ 1. Government Rakhs are leased to contractors who are bound by rules to keep them closed for some months of the year so that grasses might freely grow. Fees are levied for grazing the cattle and penalties for unauthorised grazing.
2. Some of the village common lands (and common lands form 95 % of the total Thal) have been divided during the recent partition campaign.
3. Wells are assessed to a semi-fluctuating assessment as described above.
4. Barani Jama and Tirni on camels based on the number of camels and acreage of Shamlat is fixed for each village, the villagers having the right of distributing it over themselves as they please. Each village has a number of Munsifs who distribute the Tirni called Ghachari over separate holdings and hand over the list prepared by them to the Patwari. The assessment of Barani is as follows :—

BARANI.

1. The assessment is fixed.
2. The total of assessment includes Tirni on sheep, goats and other animals excluding camels, and land revenue.

3. It is entirely left to the Zamindars how they make up this total. If crops are deficient they can assess Tirni at a higher rate and if crops are abundant, *vice versa*.

4. A crop is counted 'Kharabah' if the seed fails to germinate.

8. OCCUPATION OF THE PEOPLE.

From the point of view of occupation the Thal is divisible into three portions, *viz* :—

(1) The northern part which is tending to become exclusively agricultural.
 (2) The middle part which combines agriculture with pastoral profession.
 (3) The southern, which is still primarily pastoral and retains Maldari, as the chief profession. In it cultivation is noticeable only here and there and by means of wells. Hundreds of wells in this tract are lying ruined and suggest that at some time in the past this portion of the Thal was also considerably under agriculture and prosperous. Nowadays, flocks of sheep are either owned in full ownership by the keepers or they are kept under a system called the 'Shah Gumashta.' Under this system the real ownership of the flock rests with some big Zamindar or money-lender and the keeper is only entitled to milk and wool of the flock.

Cultivation in the Daggar is solely dependent on wells. The land of the Daggar, as has already been remarked, is stiff and light and not easily permeable to rain water and offers little opportunity for Barani. The laying out of a well and the method of irrigation from it is rather interesting and I venture to describe it in a little detail. The laying out of well is indeed a work of great art. The Daggar is mostly overgrown with "Jals." After the trees are cleared from the land a circular piece of land ranging from 175 to 350 kanals is marked out. As far as possible a high place is selected in the middle of it. There the well is dug. Often it is a covered one as otherwise the sun would make it impossible for the oxen to work. Usually the distance of water from the ground is about 35 feet and an ordinary well nowadays would cost Rs. 500. A circular channel is made around the well Mahal called the "Ad." From this "Ad" absolutely straight channels are cut out with the help of a string which divides the land into so many segments of a circle. These channels are lined with firm clay to avoid absorption of water by sand. The portion of land lying immediately around the well and hence easily irrigable is called "Khadda" and the farther "Sarhana." The segmented portion of land between the two channels is divided into Kiaras and Nankas for purposes of irrigation. In case a well-land is to be divided among the proprietors the system called the "Chuthawand" is followed. It implies that the Chutha or the erect circular wheel of the well is divided into a number of portions in which the land is to be divided and then

straight lines from the Chutha are taken out marking the land into so many sectors. Good and bad land is taken into account and equal shares of Sarhana and Khadda are taken. The whole well presents the shape of a spider's web. Usually six pairs of oxen are kept for each well and the work of drawing water from these deep wells being very hard requires expensive bullocks costing each Rs. 100 or more. As a rule the wells are worked by the owners themselves, but where the owners cannot cultivate with their own hands, land is given on Battai rate, the owner receiving $\frac{1}{4}$ th of the produce after deduction of Kamianah, land revenue and the expenses involved in maintaining the well. Otherwise Bellis on a monthly pay of Rs. $3\frac{1}{2}$ are employed (Re. 1-8 pay, Re. 1-8 for wheat, As. 4 for Dhussas, As. 2 for tobacco, As. 2 for oil and miscellaneous). But sometimes another type of labourer is also employed called the Rahak or Lachhain. He is generally paid $\frac{1}{3}$ th of the grain produced on the well. A good deal of manure is used on these wells. Owners keep their own flocks of sheep and cattle and make them sit on different places on the land for proper distribution of the manure. Rotation of crops is well observed on these lands.

As regards the Barani agricultural part, it is divisible into (i) Patti in the North, and (ii) the Barani portion in which are situated Jandanwala, etc. The patti includes a most fertile piece of land and on a first visit to it the observer wonders as to how such a fertile strip of land could have been placed in such a world of sand. The crops on it vie with those obtained from good canal lands and from some fields the outturn has been as high as 24 maunds of wheat per acre. The growing profession of the Thal is Barani cultivation and of late it has increased by leaps and bounds. The following instances will make it clear. In 1878, 1 out of 37,120 acres was cultivated in Patti Balandi. But in 1902 it rose to 3 and in 1924 to 1576. But in the agricultural part the extension is much more immense. Let us take Ghulaman, for instance. In 1878, 193 out of 41,690 were cultivated, in 1902, 2251, but in 1928 the figure rose to 32,207 which implies a huge extension. The star of Barani cultivation is still in the ascendant.

PART II.

INDEBTEDNESS IN PASTORAL AND AGRICULTURAL ZONES.

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DEBT.

Zone.	Per			Remarks.
	Person.	Worker.	Family.	
Pastoral ..	Rs. A. 61 9	Rs. A. 246 12	Rs. A. 279 0	Figures from two villages.
Agricultural ..	132 2	457 6	817 4	Four villages.
Daggar ..	52 14	176 8	314 12	Three villages inquired into.

CHAPTER I.

THE PROBLEM: THE CONCLUSION.

1. *The Problem.*—In the foregoing chapter, I have given general description and main features of the Thal economy. And I have also stated that Barani cultivation is the rising fever of the Thal. Now I come to the real matter which I was asked to investigate. The problem was whether the people in the Thal who are devoted to Barani cultivation are more indebted or those who still stick to the old pastoral profession, and what is the extent of indebtedness?

2. *Conclusion.*—The conclusion I have come to as a result of my inquiry is that the people living in the Barani cultivated portion are much more heavily indebted than those of the pastoral zone and the proportion of debts is something like 132 : 61 (or 216 : 100) per person. The figures on the opposite page represent the true position. They pertain only to the Agricultural class.

3. The figures are as accurate as I could obtain and they form only one group of the series I have collected. But before I deal with the subject at large I propose to explain the method which was adopted for this inquiry. On the method depends much in such inquiries and the reader might judge for himself as to what a standard of accuracy could have been obtained thereby.

VILLAGES.

	Name.	Population.	Area cultivated. Kanals.
1	Patti Baland	.. ..	1,318 16,551
2	Galkalah	.. ..	303 4,966
3	Jhangi Ram	.. ..	488 7,747
4	Retri	.. ..	684 26,100
5	Gulaman No. I	.. ..	2,179 92,293
6	Gulaman No. II	.. ..	2,605 139,928
7	Deli Namdar	.. ..	1,237 77,983
8	Daggar Rohtas	.. ..	417 2,504
9	Daggar Olakh	.. ..	1,697 13,113
10	Karari Kot	.. ..	1,241 6,368

Pastoral 1, 2, 3.

Agricultural 4, 5, 6, 7.

Daggar 8, 9, 10.

CHAPTER II.

THE METHOD OF INQUIRY.

4 *Divisions of Thal.*—As will appear from map "M" at the beginning of the report the Thal was found to be clearly divisible into three portions ; the first Northern, the second Southern, and the third Daggar or Western. The Northern portion as will appear from the distribution of animals on the map is highly Barani cultivated. The Southern is very much Pastoral and the Daggar corabines both the professions and such a classification is fully warranted by actual statistics. In the North a family holds on the average 238 kanals of land mostly cultivated and 10 sheep, while in the South each family owns only $7\frac{1}{2}$ acres of land but a large number of sheep, *i.e.*, 36 as compared to 10 in the North. Thus it was clear that any figures of debt relating to these two portions would represent somewhat fairly the indebtedness of the Barani and the pastoral people respectively. Accordingly three typically pastoral villages of varying populations and sizes were selected from the South and three typically agricultural from the North for the purposes of inquiry. I did not want to ignore Daggar and I dragged it as well into the investigation by selecting three more villages from it.

The names of the selected villages, their populations and positions are given on the opposite page.

5. *The Questionnaire.*—For eliciting information I issued the questionnaire, on the following page. It is not quite exhaustive. But I had to keep the capacity for supplementary work of the subordinates in view, and particularly the strain I could put on them in the winter months of Girdawri.

6. *How answered.*—The questionnaires were distributed to the Patwaris of the villages under inquiry, and they were instructed to use uniform answer books (*vide* Appendix Vol. I).

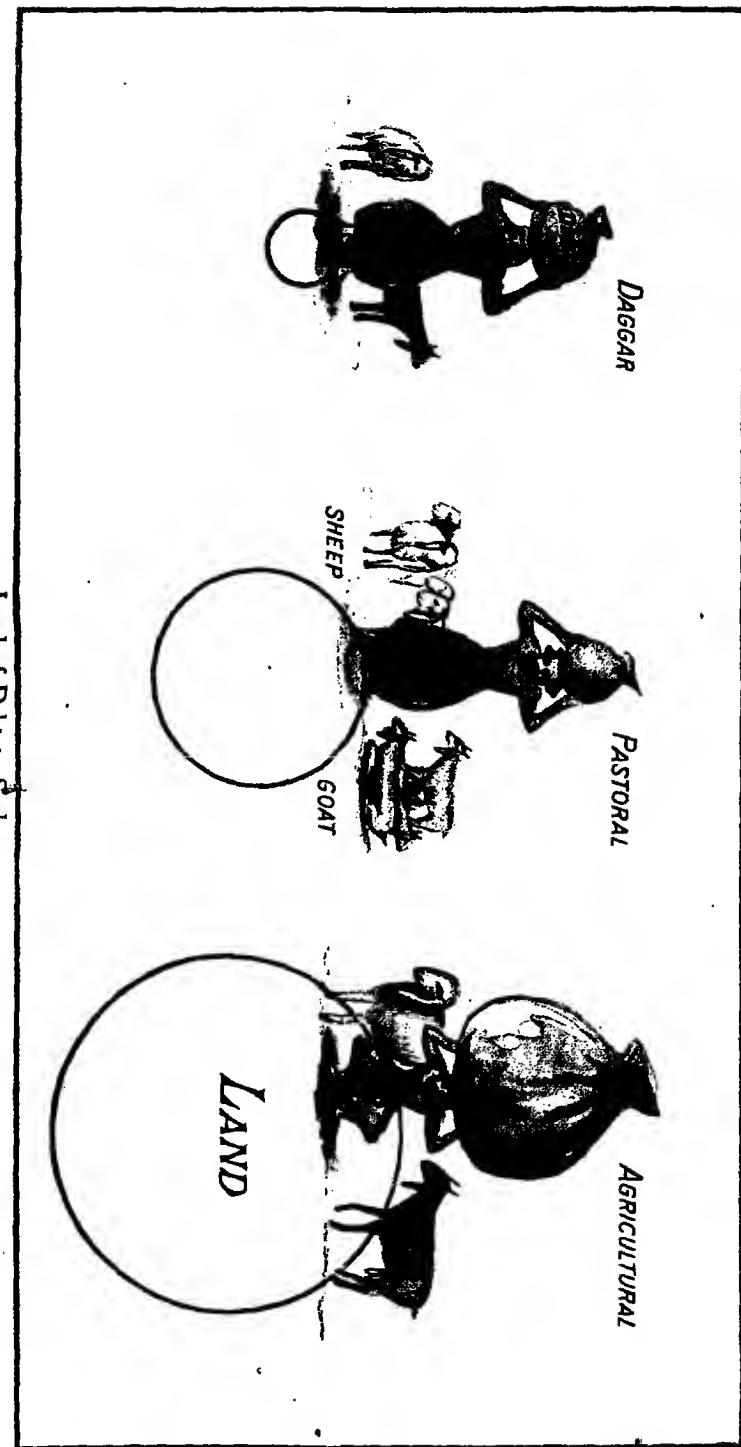
THE QUESTIONNAIRE.

Village etc.		Name and Family Number.
Age Composition.	1	Males under 12.
	2	Females ditto.
	3	Males between 12 and 55.
	4	Females ditto.
	5	Above 55.
	6	Total
Profession.	7	Camels.
	8	Cows.
	9	Sheep and goats.
	10	Oxen.
	11	Land held.
	12	When took to Barani.
	13	Annual Income.
	14	Ancestral Land.
	15	Self-acquired.
	16	Total.
Debt and why incurred.	17	Total.
	18	When incurred.
	19	Rate of interest.
	20	For Litigation.
	21	Marriage.
	22	Funerals.
	23	Purchase of cattle.
	24	Extension of Agriculture.
	25	Taccavi and Bank Loans.
Repayment.	26	Interest.
	27	Principal.
	28	Ornaments, Kothas, or Sahls.

The Patwari went from door to door and prepared the statements after careful inquiries. After his finishing the work the Girdawar Qanungo verified a large number of entries as he was personally held responsible for their accuracy. As soon as he verified the Naib Tehsildar of his circle inquired into their truth and after the Naib Tehsildar I personally went to every village and by sitting amidst vast congregations of debtors satisfied myself with regard to the accuracy of the entries. In doubtful cases the records of creditors were also referred to. This gave me valuable opportunities for having intimate talk with the villagers themselves and I inquired from them the causes of Indebtedness as they understood them, the remedies thereof, and how they felt under indebtedness. Their replies were interesting; a mixture of the sublime and ridiculous but I was fully impressed that there was very little which they did not understand and what study disclosed to me, experience had taught them already.

7. *Statements.*—All the statements prepared by the Patwaris have been embodied into an appendix; and some of them I got translated into English, so that every reader may find it easy to check the accuracy of my conclusions and make such other generalisations with regard to the Thal as he might like. The number of sheep possessed by each village and the area cultivated therein is stated in Statement No. I, against each village. The method as to how Income was calculated for each of the villages is given in Statements Nos. II and III. Income from different kinds of soils—Barani and irrigated by wells—was calculated and spread carefully over the whole Estate. Reference to these statements and calculations therein will make the whole position clear. Statement No. II also indicates how Income from sheep and goats was estimated. One more point may also be explained. In estimating debts and incomes and interest I have used the words per 'person,' per 'worker' and per 'family.' The number of persons in each village and family

was a mere matter of census which was actually taken and 'worker' means an able-bodied earning person between the age of 12 and 55. This measure was introduced with a view to see as to what was the burden of debt and interest borne by the earners for it cannot be denied that they are the persons who matter most in the National Economy. I will notice in detail the problem of indebtedness in the next chapter, and in the following one some economic and sociological conditions of the people of the Thal, their houses, size of the family, income, and age composition etc., etc.



CHAPTER III.

DETAILED NOTICE OF THE PROBLEM.

8. *The Pastoral Zone.*—I will take the pastoral zone first. Apart from that of a few Zamindars the mainstay of the people in this part is cattle—sheep, goats, camels and cows. Sheep and goat are kept in two ways, either in full ownership or by a 'Shah Gamastha' arrangement, which means that the cattle in reality belong to Sahukars, but the keepers thereof are entitled to their milk and a portion of wool for looking after them. Some important figures for this tract are as follows :—

Per	Land Kanals.	Sheep and Goat.	Debt.	Income (annual.)	Interest.	Balance.
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Head ..	13	8	61 9 0	27 0 0	11 8 0	15 8 0
Worker ..	53½	32	246 12 0	110 8 0	46 12 0	63 8 0
Family ..	60	36	279 0 0	165 8 0	69 12 0	95 12

Thus we see that if interest charges are fully met with income per capita is no more than Rs. 15-8 and for the family Rs. 95-12. If the factor of prices is to be eliminated from the calculation it means luxuries and necessities everything included, the family earns only about 4 maunds of wheat per mensem. Income was calculated separately for cattle and land and the method adopted is shown in the Appendix. (*Vide* Appendix 'B' at the back). But this may be noted that if regularly paid interest eats away 43 % of the earnings of a cultivator, and the principal cannot be repaid unless a family starve completely for about two years.

Figures for both the villages are given separately on the following page.

Item.	Pati-Balandah.	Galkalah.
Income in Rs.	Rs. a. p.	Rs. a. p.
„ From Land	4,655 0 0	1,386 0 0
„ Cattle	34,500 0 0	5,400 0 0
Total	39,155 0 0	6,786 0 0
Income per Person	29 12 0	22 6 0
„ Worker	118 10 0	76 4 0
„ Family	177 3 0	138 8 0
Total Debt	73,476 0 0	26,129 0 0
Per Person	55 12 0	86 3 0
„ Worker	222 10 0	293 9 0
„ Family	334 0 0	533 0 0
Total Interest	13,776 0 0	..
Per Person	10 7 0	16 2 0
„ Worker	41 12 0	55 1 0
„ Family	62 7 0	101 15 0
Balance after Interest is paid—		
Per Person	19 4 0	6 4 0
„ Worker	76 14 0	21 3 0
„ Family	114 12 0	36 9 0

A perusal of these figures indicates that debt is inversely proportionate to Maldari. Land per person in Patti Balandah and Galkalah is practically the same. But the proportion of Maldari is approximately 6 : 8½ and the ratio of debts is 8 : 6 which means an inverse proportion; or that loss of Maldari results in an equal enhancement of debt.

9. *Debtors.*—But it is also to be noted that most of the debt is owed by those who undertake Barani cultivation, or pursue agriculture with the help of expensive wells. Reference to village statements in Appendix will make this point clear.

In Patti Balandah (No. 1 Volume, Appendix)	family No. 4 owns only 4 sheep and	
	195 kanals land and the debt is ..	Rs. 680
No. 5 owns no land but 80 sheep, debt is	Rs.	45
No. 110 owns 155 Kanals land and practically no sheep, debt is ..	Rs.	500
No. 59 adds 40 sheep to the same land and debt is ..	Rs.	300
In Galkalah (No. 2) Family No. 37 owns		
100 sheep and 120 Kls. land and owes	Rs.	150
While No. 41 owns no sheep but 160 kanals of land and owes ..	Rs.	1,040

Similar instances can be multiplied by reference to other statements.

10. *Purely pastoral people free from debt.*—But more than that I succeeded in my tours in discovering a tribe which lives entirely on pastoral profession, without taking any part in agriculture. It lives between Mankerah and Patti Balandah, not attached to any particular village, in portable Sahals and enjoying full liberty of movement in accordance with the well-being of their flocks. They go where rain falls and grasses grow. They owe no debt, and if the statements of Lombardars and Zaildars besides their own are to be relied upon, even the

present days of acute hardship have not been able to inflict indebtedness upon them. I paid a visit to their homes. The women folk were beautifully strong and healthy and unlike the wives of impecunious Zamindars each wore about one lb. of silver ornaments on her person. The people say whenever anybody is in dire need of money and wants only Rs. 5 or 10 for a short time he goes to them and the loan is cheerfully given.

Even in Dulleihwallah in the heart of the Barani Area, I found such a tribe. (The details are given in the footnote). It lives on pastoral profession purely and enjoys complete freedom from debt. With regard to them the Zaildar of Dulleihwallah submitted a Memorandum to me and some salient points from it are given in the footnote. The Memorandum itself is a wise comprehension of the whole problem.

1	2	3
Zahd, son of Daim	Zaman, son of Daim	Jana and Khanah, son of Ganda.
4	5	6
Ramzan, son of Budha	Alam Sher, son of Muhammad	Shera, son of Ramzan
7	8	9
Mohammadah, son of Janah.	Sharnadah, son of Janah.	Allah Dittah, son of Ahmadah.
10	11	
Sardarah, son of Fateh.	Ghulaman, son of Qaim.	

The families live in Dulleihwallah and own no land not even a share of the common land. They live exclusively on 'Maldari' and are entirely free from debt. There is no agriculturist who is free from debt and for proof of this assertion reference may be made to Bank Accounts and Sahukars' Bandis. The Thal is entirely dependent on Rainfall. If rain falls at the time of sowing, it does not fall at the time of maturation and vice versa. The following are the causes why Pastoral Profession is most suitable for this tract:—

1. In this tract there are some natural trees like Jand and Phog which need very little rain and animals can live upon them.
2. There are several reserved Government Rkhs and grass can be had there in abundance.
3. If rains fail, sheep and goat can be taken to that part where it had fallen. But the Zamindars "cannot take away their lands with them."

II

THE BARANI PORTION.

11. *The Barani Part.*—Generally speaking the Northern Thal is the “ Barani Cultivation ” portion for it has taken with zeal to this profession. This fact is fully elucidated if we keep in view the following figures of areas under cultivation at different settlements in some of the villages of this portion :—

BARANI—TOTAL ACRES.

Village.	Year 1878.	Year 1902.	Year 1924.	Last Jamabandi 1927-28.	Proportion of Barani 1878-1928
Jandawala ..	374 6035	3478 63730	28682 63916	31102 63906	83 1
Gulaman ..	193 41690	2251 42938	24954 43667	32207 43668	167 1

Thus we see that the Barani cultivation in these villages in 1902 had increased by 1000% as compared with 1878 and in the next 25 years it showed the same increase on 1902.

12. *The Cause of Extension.*—The cause of this extension is not very easy to determine. The popular idea that it was brought about by the development of taste for agriculture during the years of recent high prices does not much appeal to me. The above figures clearly show that the tendency had come into great operation long before the era of high prices. It may be one of the reasons but the real decay of pastoral life was brought about by the systematic extinction of Cottage Industries in the Punjab and the extension of agriculture in the Thal was only a part of the tendency which was forced upon the Punjab by the import of large quantities of goods from

abroad by the opening of the new means of communication. The prosperity of the Thal depended on the sale of wool and ghee. Towns like Mankera and Dulleihwallah in the Thal, Dera Ismail Khan and others close to the Thal manufactured woollen articles of all sorts (Durries, Nawar, cloth etc.) and depended on the Thal for the supply of wool. But with the advent of imported articles from abroad, and the facilities given by the Railway for inter-provincial trade, some of these places entirely ceased to manufacture woollen goods, and those which continued the industry could get better qualities of wool from other places due to the facilities of communication provided by the Railway. In days gone by, it was only the difficulties of carriage from somewhere else which had assured a large market for the Thal wool in North-Western Frontier and North-Western Punjab, but after 1902 the things changed and people had to reckon little on wool for large profits. Ghee was another source of profit. But the Bars of Shahpore and Lyallpur became early more communicable with the rest of the Punjab than the Thal and the supplies from there to the Central Punjab superseded imports from other distant places. Hence it was in the nature of things that people should have felt attracted towards agriculture. The high prices of War Days stimulated the tendency towards agriculture and even raised false hopes. But as soon as the things began to become normal the people began to realize the inconveniences of the new situation and now certainly feel that agriculture is spelling their ruin.

12A. *Debts in Barani.*—The figures for this tract are as follows :—

Per	Land Kanals.	Sheep and Goat.	Debt.	Annual Income.	Interest.	Balance.
			Rs. A.	Rs. A. P.	Rs. A.	Rs. A.
Head ..	46 $\frac{3}{4}$	1 $\frac{1}{4}$	131 12	23 5 4	25 0	-2 5
Worker ..	151 $\frac{1}{4}$	4	457 8	80 12 0	86 12	-6 0
Family ..	288	7 $\frac{1}{4}$	818 4	14 4 0	155 0	-141 4

Why debt incurred?

(*Vide Statement for Gulaman (1) & (2) Columns 21-25.*)

Litigation	5.2%
Ceremonies	19.7%
Agriculture & Purchase of	
Bullocks	73%
Miscellaneous	2%

The figures for the villages are given on the following page. Now these figures also reveal that with the increase of cultivation debt increases practically in equal proportion. For instance in Retri a person holds 38 kanals of land; in Deli Namdar 63, the proportion is $63/38=7/4$ and the proportion of debts is $198/89$ roughly $=7/3$. In Deli Namdar a person holds 63 kanals of land and in Gulaman No. (1) 42. The proportion of lands is $63/42=3/2$ and the proportion of debts is $198/133$ or exactly $3/2$. I do not take Gulaman No. (2) into consideration because as far as I could see the land contained in this village is one of the best anywhere available.

But this is to be noticed that if interest charges are fully met with by the people in this part a person in Retri shall have a balance of Re. 1-15 only with which to maintain himself for the whole year and in Deli Namdar the interest will not only eat up the whole income but require the addition to it of Rs. 6-8

DETAILED NOTICE OF THE PROBLEM [Chap. III.
PER VILLAGE.

Item.	Retri.	Deli-Namdar.	Gulaman No. 1.	Gulaman No. 2.
Income—				
From Land ..	Rs. A. 7,312 0	Rs. A. 29,243 0	Rs. A. 34,609 0	Rs. A. 52,473 0
,, Cattle ..	5,400 0	8,700 0	7,500 0	11,100 0
Total ..	12,712 0	37,943 0	42,109 0	63,573 0
Per Person ..	18 10	30 10	19 5	24 6
,, Worker ..	63 4	90 15	68 8	90 5
,, Family ..	105 0	193 9	110 13	164 4
Total Debt ..	61,000 0	2,45,000 0	2,80,000 0	3,01,059 0
Per Person ..	89 3	178 0	133 0	119 0
,, Worker ..	303 8	587 8	455 4	440 7
,, Family ..	504 0	1,250 0	736 3	801 3
Total Interest—				
Per Person ..	16 12	37 2	24 7	22 5
,, Worker ..	56 4	110 3	85 8	82 9
,, Family ..	94 8	234 6	138 3	152 11
Balance—				
Per Person ..	1 15	—6 8	—5 2	2 1
,, Worker ..	6 6	—19 4	—17 0	7 12
,, Family ..	10 9	—30 13	—27 6	11 9

(—) indicates minus.

per person from somewhere else for its full payment. On what are the men to live? The position needs no comment and the conclusion emerges that the financial position of the agricultural portion of the Thal is much worse than that of the pastoral portion, which itself shows only a net income per capita of 30 seers of wheat per mensem all told. Now all other things are equal in the case of both the zones excepting the occupation of the people, and if comparative study is at all a reliable guide it appears unquestionably true that the Barani cultivation is at the bottom of this difference of positions. In the Northern Thal a family owns 10 sheep and 288 Kanals of land but in the Southern only 60 kanals of land and 36 sheep. The people in the agricultural Thal are entirely insolvent and cannot repay their debts and their position as far as I can see might cause some day anxiety to the stability of political life in the Punjab. Unless a family starved for six years the principal cannot be repaid, leave alone the interest that might accrue during this period. *But the important question with which we are now confronted is—why Barani cultivation has proved a failure?*

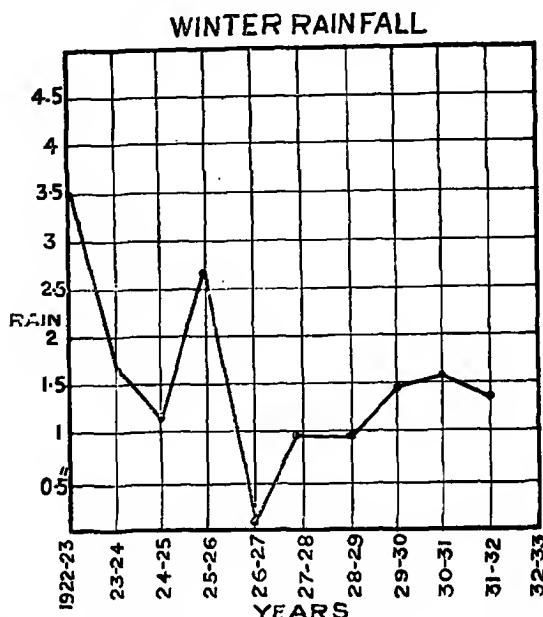
13. *Why Barani has failed.*—The chief causes of the failure of Barani Cultivation are as follows:—

- (a) Treacherous Rainfall.
- (b) Poor Soil.
- (c) Cost of Bullocks.
- (d) High rate of Interest for Seed borrowed.

The most important reason of all is the Rainfall and I will take it first.

(a) In Part I, Section 3 it has been shown that the Geographical position of the Thal is such that abundant rainfall here is out of the question. Winter rains matter most here; wheat and gram are the principal crops and they are the winter crops. Figures for the past years have been given in Section 3 and only winter-rainfall will be discussed in detail here.

The diagram for the same is given below :—



Judged from these figures 1.58 ins. is the (1922-32) average Winter Rainfall. About $4\frac{1}{2}$ ins. is required normally for wheat and that reveals the inadequacy of rainfall. But this small average for winter is even steadily dwindling every year. The following figures make the point clear.

Average—	1885-1900	.. 2.8 ins.
	1903-24	.. 2.35 ins.
	1914-24	.. 2.13 ins.
	1922-32	.. 1.58 ins.

But even this small quantity of rainfall is very uncertain, as the graph shows that between 1922-32, the rain practically failed for 7 years. For the past years the following extracts from Settlement Reports are very informing :—

Mr. Haileys 1902, Para. 14.

“ The detailed figures show that the winter months from October to February are almost entirely rainless.”

Para. 43.

“Beginning in 1884-85 there occurred a prolonged drought for 6 years.”

Para. 8, S. S. Ganda Singh.

“In the period of 21 years (1903-24) there was a complete failure of rain for 17 years in October and November, a fact which clearly points to the altogether deficient and precarious character of rainfall for the sowing of Rabi crops in the Thal.”

In these circumstances what but a miracle could have made the Barani successful? At least three bad years from the point of view of rainfall alternate with one good one. As far back as 1902, Mr. Hailey, (Now Sir Malcolm) had observed (Para. 10 Assessment Report), “A ‘lak’ may bear a crop for two years running and then bear nothing for four or five years.”

Now let us see what are the implications of this arrangement for the ‘Barani’ cultivation. Let alone other expenses, we shall take the seed thrown in the land into consideration. The seed is usually borrowed at 40 to 50% interest in kind. An acre requires 1½ mds. We have seen that 3 years will at least be rainless. Seed thrown for three years inclusive of interest would amount to about 5 maunds and shall have to be defrayed from the crop of the fourth one if it is successful. The average yield for the Thal is not more than 8 mds. and it means that for the labour and expense of four years a cultivator would get 3 mds. from one acre. Now if we remember the other payments he has to make for Kamins, Bullocks, Land Revenue and his own maintenance it does not remain difficult to see where Barani cultivation would lead him. For his own maintenance alone he requires at least five times as much.

(b) The second reason is that the soil is not very good. The expenses of cultivation are fairly high and the yield is

comparatively low. The soil possesses natural qualities for producing water-melons and could transport be regularised the Central Punjab might be relieved of the necessity of producing water-melons on first class soil.

(c) The using of bullocks also makes agriculture expensive. The bullocks are mostly imported from the 'Kachha' or 'Lamba' and besides the heavy initial costs they have to be stall-fed as they cannot thrive on the products of the waste. I think the use of Camel for agriculture in the Thal needs being carefully considered. It will be a home-bred animal and shall manage to live on the natural grasses.

(d) And the last factor is the high rate of interest charged for seed. It varies from 40 to 50% and as it cannot be paid it goes on accumulating.

All these factors have combined not to make agriculture only unprofitable but positively a source of permanent loss to the people of the Thal.

14. *Other Disadvantages of Barani.*—Apart from indebtedness Barani cultivation has brought some other severe disadvantages in its train.

For instance :—

(a) *It has diminished the mobility of the Thal People*, and has thereby precluded them from taking advantage of rainfall at a place distant from their own. Previously if rains failed in the Thal the people moved either towards the Indus valley on the West or Chenab on the East, where some sort of grasses for their flocks could always be available. But now they are tied down to particular pieces of land, and suffer heavily if the rain fails.

(b) *But the greatest loss results from the extinction of waste products.* As will appear from sections 5 and 6 of the Introduction, the products of the waste play an important part in the

Economy of the Thal. The natural grasses Lahna, Phog and Chembar are the food of animals and Pilu is a great element in the diet of the people for the hottest months of summer. Apart from its nutritive value, its cooling effect is marvellous and helps people to pull through summer ; similarly as Beefex does in the English winter. But the cultivation of Barani means the extinction of all these plants and it is realized by everybody in the Thal that that means a great misfortune for the people.

(c) Moreover grasses and plants make the sand firm and prevent it from blowing in the storms and hot 'Luhs.' With the evanishment of plants the sand is becoming loose every day and people rightly complain that storms are becoming more troublesome and that one chhattak of dust in a seer of eatables is nothing.

(d) Further looking after cattle does not entail $\frac{1}{4}$ th of the labour required by cultivation. 'Barani' has exerted great strain on the people. The climate is very hot in summer ; abundant 'lussi' and ghee of the Maldari days is no longer available ; work has to be performed in dust and people have to live on grams and wheat which are also heat-producing. All this is having a bad effect on the once renowned physique of the people and the general opinion is that the appearance of phthisis and several other diseases in the Thal is due to these new circumstances.

III

THE DAGGAR.

15. *The Daggar.*—The third portion of the Thal is the Daggar. Its conspicuous feature is that Barani cultivation is very little followed here, and agriculture mostly depends on expensive wells. Maldari is also considerable. Before my inquiry it was represented to me that this was perhaps the most indebted portion of the Thal (or at least as much as the

Barani). But statistics do not support that impression and the study of facts reveals that this is the least indebted of all the parts. The figures are as follows :—

Per	Land Kanals.	Sheep and Goat.	Debt.	Annual Income.	Interest.	Balance.
			Rs. A.	Rs. A.	Rs. A.	Rs. A.
Head ..	7	3½	52 10	11 12	9 14	1 14
Worker ..	24½	11½	176 8	39 5	33 2	6 2
Family ..	44	21	314 12	70 4	59 0	11 4

Why debt incurred ?

(*Vide* columns 21-25 of the statement for D. Aulakh).

For purchase of bullocks and cattle .. 81%

Ceremonies 12%

Litigation 3%

Miscellaneous 4%

For each village separately the figures are given in the consolidated statement. Indebtedness here is only $\frac{1}{10}$ th of that in the pastoral zone.

16. *Why debt is low here?*—This result is but natural. Agriculture depends on wells and not much on rain and crops, therefore, seldom fail altogether even if the rains fail. Maldari also helps the people substantially.

But most of the debts are due to the purchase of bullocks. The margin of profit from agriculture is very little. The bullocks required are expensive, and even if one dies prematurely the debt incurred becomes difficult to repay.

81% of the total debt is due to this item (see figures above).

CHAPTER IV.

SOCIOLOGICAL.

Character, Age Composition, Diet and Housing.

17. *Character of the People.*—Now I come to some of the Sociological features of the people of the Thal. They are tall, and athletic and unlike the men of Lahore and Amritsar 'Majha' they are very much disposed towards leanness. They revel in the sports of running and 'Pirkaudi' perhaps unknown in the Central Punjab. Usually they marry late but it is regrettable that the longevity of their ages which used to be a by-word has begun to diminish. From amongst the crimes theft is particularly avoided. Footprints can be easily traced on the sand, and a common proverb has exalted this compulsion into a virtue by saying "Chor Chinaion, Sindh Sidikon" viz., the people of the Chenab are thieves and those of the Sind are faithful. The women are also tall and in their erect posture when they lift several pitchers of water on their heads they truly furnish models for art. Both the Hindus and Muslims wear 'Sharai' moustaches, long and shaven about an inch below the nose*. Both the communities wear long hair called the 'Pattas' and a small turban loosely tied which derives its name from the hair called the *Pattka*†. The long shirt is called the Chola and loin cloth 'a majhlah.' The apparel is collectively known as 'Thigras.'

18. *Diet.*—The diet of the people consists of wheat and gram 'chapatis' with or without salt for about 6 months of the year. Those who can afford or get 'lassi' from somewhere else eat 'chapatis' with 'lassi.' But three months of the

* I say this to facilitate the coming generations of clean shaven people in knowing what their ancestors looked like.

† Mr. Tucker in his Settlement Report (1878) says that before 1840 the Hindus were not allowed to wear turbans by the Muslim Rulers and accordingly they wore caps in the Thal.

year, June, July and August are practically passed on Pihls, the fruit of the Jal tree. In these months entire families move out to live under Jal trees " and lead a truly Arcadian existence." Two more months are lived on water-melons, which are eaten ' Pitta ', when ripe as a fruit, ' Tittka ' when young by being made into a sort of porridge, and ' Chichkas ' its seeds are either ground and made into balls or mixed with gram and made into loaves. A fellow-officer who was an eye-witness was telling a fine story. He said as soon as the locusts fell upon the Thal the people rejoiced as they thought it was a heaven-sent blessing. Men, women and children marched out into the fields with gunny bags and brought them back filled with locusts every day. The locusts were carefully dried—it could not take very long for that in the Thal and preserved as a dainty for being used for the whole year. But it is a pity that people, who within living memory used to offer milk even to travellers on the roadside, should themselves now feel so hard up that some of them have to beg for " lassi."

19. *Age Composition.*—The age composition for all the three parts under inquiry is given hereunder.

AGE COMPOSITION.

Part.	Males below 12.	Females.	Men be- tween 12 & 55 or workers.	Women.	Above 25.
Pastoral ..	25.8%	21%	24.5%	21%	8%
Agricultural ..	21%	19%	28.7%	25%	6.3%
Daggar ..	20%	18%	29.9%	24.8%	7.4%

I wish to make the following remarks on it :—

REMARKS.

(a) It will be seen from the Statement that on the whole women (between 12-55) fall short of men by about 40 per thousand. That may be one of the explanations for the prevalence of the crime of abduction in this tract.

(b) There are 24 to 30 workers per hundred persons and hence it is clear that each worker has to support a family of about four persons including himself.

(c) In the pastoral zone there are 70 children per thousand more than in the agricultural zone and the explanation may not be unreasonable that it is because milk is more conducive to fecundity than wheat and grams.

(d) In the pastoral zone the number of persons above the age of 55 exceeds that in the agricultural by 20 per thousand and the conclusion may not be unsound that the longevity of age in the pastoral is in excess of the agricultural.

20. *Housing*.—Housing forms an interesting study. People live in three sorts of houses, *viz.* :—

- (a) *Sahls*.—A single apartment made entirely of twigs.
- (b) *Jhogas*.—Roofed with twigs but walled with mud.
- (c) *Kothas*.—Walled with mud and covered with mud and wooden beams.

As would be natural Sahls are mostly found in the Pastoral Zone. The people are always on the move for 'fields fresh and pastures new' and cheap portable houses suit them the best. In Patti Balandia which is in the pastoral zone the percentages of population living in different sorts of habitations are as follows :—

552 persons live in 100 sahls ... 42% of the total.

201 persons live in 38 Jhogas ... 15% of the total.

565 persons live in 82 Kothas ... 43% of the total.

In the agricultural portion the position is as follows :—

	Sahls.	Jhogas.	Kothas.
Retri ..	28%	8%	64%
D. Namdar ..	2·8%	34·7%	62·5%
Ghulaman No. 2	<i>Nil.</i>	36·5%	63%

Thus we see that as we go towards the agricultural part the sahls begin to fall off and ultimately in Ghulaman No. (2) they vanish.

The number of persons accommodated by a Sahl, Kotha or Jhoga (of about 160 square feet) is as follows :—

Village.	Sahl.	Jhoga.	Kotha.
Patti Balandia ..	$5\frac{1}{2}$	$5\frac{1}{5}$	7
Retri ..	$4\frac{1}{5}$	$3\frac{1}{2}$	$3\frac{1}{5}$
D. Namdar ..	3	$2\frac{2}{3}$	3
Ghulaman 2 ..	<i>Nil.</i>	$4\frac{1}{5}$	3

It will appear from this statement that people in the agricultural part live less congested than in the pastoral.

But some people have no homes at all. They wander away their lives by living under trees. Others sometimes live from 8 to 13 persons per apartment vide *Retri* families Nos. 1, 63, 78, 107; *Deli Namdar* Nos. 56, 62, 118 and there are numerous others.

In winter animals also share the Kothas with their owners in many cases and furnish proof that they are not radically different from each other.

But on the whole the non-agriculturists live well. They always possess good kucha or pucca kothas for their use and very often the number of kothas in their Hawelis exceed the number of residents. But with Zamindars it is rather unusual.

(Vide D. Namdar Hindu families Nos. 113, 114, and there are many others.)

CHAPTER V.

CONCLUSIONS.

21. *Conclusions.*—To sum up the main conclusions to which I come are as follows:—

- i. The Thal is clearly divisible into three parts—
The Barani Agricultural, Pastoral and Daggar.
(Para. 4.)
- ii. The people living in the Barani cultivation portion are much more heavily indebted than those of the pastoral zone and the proportion of debts is something like 132 : 61 or 216 : 100. In some villages the requirements of Interest exceed the income and the principal is irrepayable unless the people could starve completely for six years or so.
(Para. 2.)
- iii. In the pastoral zone debts are inversely proportional to the number of sheep and goats possessed, and
(Para. 8).
- iv. In the agricultural zone debts are directly proportional to the extension of agriculture.
(Para. 12).
- v. In the pastoral zone net income per person per year is about Rs. 15 (calculated on the Bhakhar prices of 1932 winter) and in the agricultural, *minus* Rs. 2-5-0, if interest on debt is to be fully paid.
(Paras. 8, 12).
- vi. Barani cultivation is at the bottom of this difference of positions.
(Para. 12).
- vii. Barani cultivation in the Thal has failed owing to inadequate and uncertain rainfall. Three years of failure alternate with one moderately good

year of rainfall, and the average for winter is dwindling steadily every year, (Para. 13). moreover, the use of bullocks for agriculture and interest on seed also make agriculture unprofitable. (Para. 14).

- viii. The other disadvantages of Barani are grave and consist in the extinction of valuable natural products, loosening of sand, denial of nutritive food like milk and 'lassi' to the people and restriction on their mobility for taking advantage of rainfall elsewhere.
- ix. Age is presumably longer in the pastoral than in the agricultural zone. (Para. 19).

CHAPTER VI.

PARTITIONS OF COMMON LANDS.

22. *Partitions.*—In the light of these conclusions mentioned in the foregoing chapter, I wish to say a word about the desire for Partitions so vigorously in operation in the Thal nowadays. It has been clearly shown that Barani cultivation has proved a failure and is everyday involving people in financial disaster ; it cannot succeed as long as the condition of rainfall in the Thal remains what it is. Now this has also been established by past experience that partitions lead to the extension of agriculture. So the question may be naturally asked if those who are responsible for giving countenance to such a process have carefully considered its ultimate implications. I do not think in the matter of partitions the end is being kept clearly in view. Even at the present they have involved people in debt owing to the litigation they call for ; and the expense which would be ultimately required for taking possessions and civil remedies would surely leave none in the Thal outside the snares of Indebtedness. But it may be argued with some reason that partitions are not likely to lead to the whole area being cultivated at once ; that that will take a very long time, and for decades to come the extinction of waste products and other dangers attendant on the extension of agriculture may not be apprehended at all. That is true. But we are less concerned with the extension of agriculture and more with the facilities for keeping sheep and goat. And it would be idle to deny that restraints on Maldari do not come into operation the very day the partition takes place in a village. Our rural life is factious. The sense of mutual good is sacrificed to the desire of vengeance due to personal ill-will. As soon as a goat or sheep by old habit would enter the partitioned area of a person who may not be well disposed towards its owner impounding and troubles attendant upon it would start. Maldari requires extensive grazing lands and that is perhaps the chief reason why a

very large portion of the Thal was kept as common land since times immemorial. Unless partitions affected only lands of exceptional fertility the new order of things would place great obstacles in the way of cattle rearing.

This fact ought to be perceived clearly and even from the point of view of Land Revenue a deep investigation is required to determine whether ultimately the profit to the tax-payer would be as great as the inconvenience to the majority of the sons of the Thal. The feeling is naturally entertained that partitions involve a disintegration of a system which has stood the test of centuries and could provide excellent opportunities in the future for an experiment in farming and sheep rearing on a large Co-operative basis. Nobody need ever think that the Government might not have taken into consideration these *pros* and *cons* of the matter, yet these are the considerations which are thrown out in bold relief as the result of this study.

CHAPTER VII.

SUGGESTIONS.

23. *Suggestions.*—In the end I wish to make a few suggestions. This is not the place for going into details and I shall confine myself to bare hints.—

- i. Something must be done to reduce the rising tide of indebtedness, for the position as it is, is not free from danger to the creditors themselves, and its continuation means a social hazard.
- ii. Barani cultivation may be encouraged with caution as it has involved the cultivator in a financial disaster.
- iii. Partitions may be sanctioned with great reluctance and should be discouraged as they involve *ipso facto* the extension of Barani cultivation.
- iv. Arrangements may be made for the improvement of the quality of sheep and goat.
- v. Government might open some such banks as may be called "Sheep & Goat" or "Maldari" Banks. Money should be advanced to the people for the purchase of sheep and goat and it might be ensured as far as possible that they do nothing else with the money.
- vi. The use of camels instead of bullocks for agriculture may be encouraged.
- vii. Exclusively Seed Banks may be opened. They may let out seed and collect it back through the Patwari or Lambardar from the heap as a first charge. In this case people would be saved from 40 to 50% interest on seed.

- viii. A curriculum of sheep-farming and cattle rearing may be introduced in all the primary schools. It is regrettable that the chief profession of the Thal is given little attention in the schools.
- ix. 'Jhand' is a very useful tree and its plantation may be encouraged in the Thal. It will afford shade to man, food to animals, and bring profit to the owner if sold as fuel.

II.

CALCULATIONS OF INCOME.

**Statement of Income and Expenditure of well Horuwalah
village Duggar Rohtas, Bhakkar Sub-Division.**

No.	Commodity	Total area.	KANALS. Shares in the well.			Total.	Exp. on seed and etc.	Balance.	Price.
			1st.	2nd.	3rd.				
1	Cotton	..	3½	..	6½	10	Re. 1-8	Rs. 20-8	Rs. 25-0
2	Bajra	..	4	4	4	12	Re. 1-8	Rs. 7-8	Rs. 9-0
3	Jowar	..	9	4	7	Fodder	Rs. 2-8	....	..
4	Titak	..	½	..	3½	Fodder	....	....	....
5	Gawarah	..	1	..	..	Fodder	....	....	....
6	Wheat	..	43	30	92	165½	45 mds.	Rs. 430	250 mds.
7	Barley	..	2	1	3	6	Re. 1	..	Rs. 10
8	Turnips	..	12	1	20	33	....	Rs. 9	....
9	Usn	..	1	..	2	3	....	Rs. 4	Rs. 4
10	Carrots	..	½	..	1	Not sold	....	....	....
11	Tobacco	..	3	..	6	9	Rs. 2	Rs. 77	Rs. 80
12	Vegetables..	..	½	..	½	Not sold	....	....	....
13	Fodder	..	3	1½	6	Fodder	Re. 1	....	....
		46 acres					Total	Rs. 545	

Note.—Gross area of 1st, 2nd and 3rd share is 110-14, 86 and 172-14 kds.

Expenditure.—

No. of bullocks 16. Each value at Rs. 75. Total Rs. 1,200.	A bullock cannot serve for more than 6 years in Daggar and hence annual cost of bullocks is ..	Rs. 200
4 Belis (servants) each at Rs. 48 per mensum ..	..	Rs. 225
Land Revenue ..	..	Rs. 25
Special feeding for bullocks at harvest and sowing times ..	..	Rs. 32
Miscellaneous ..	..	Rs. 10

Balance of income over expenditure (Rs. 545—Rs. 492) .. Total Rs. 492

Net income per acre Re. 1-40

Note.—For other wells see detailed statements in the pocket.

CALCULATION OF INCOME FROM BARANI LAND.

Self-cultivated.—

Per pair of bullocks about 20 acres (8 acres grams & 12 acres wheat) Kharabah = 50% in Thal.
(Balance 10 acres) ..

Debit. Seed (20 mds.), Interest on seed (6 mds.), Kamiana (9 mds.), 7 mds. per acre = 70 mds.
bullocks (Rs. 15) and Land revenue (Rs. 8) @ Rs. 2 per md.

Balance Rs. 45 per 20 acres or Rs. 2-4 per acre.

Tenanted (per pair of bullocks and 20 acres of land as above)—

Debit. Kamiana (9 mds.), Land revenue (Rs. 8) and mis- ½ after deducting Kamiana i.e. 20 mds.
cellaneous (Rs. 2) (@ Rs. 2 per md.)

Balance Rs. 30 per 20 acres or Re. 1-8 per acre.

Income from 50 sheep if looked after by the family itself.—

(Out of 50, 8 males, 12 lambs, 14 non-milk-giving and 16 milk-giving for the whole year).

Daily milk. Butter or Ghee.

7 seers. (@ 1 chhk. per seer) ½ seer per day. As. 6 per day or Rs. 137 per year.

Wool—

150 pothis a year @ about 9 pothis per rupee i.e. Rs. 16 per year.

If deaths and births cancel each other the total income is about Rs. 150 per year.

